The BEACON SpotLight

A Study of Constitutional Issues by Topic

Issue 29: Coining Money and The Coinage Act of April 2, 1792

There are a number of original source materials available for studying the U.S. Constitution, including notes on the 1787 Constitutional Convention and articles written in favor of ratification *(The Federalist)* and against (the anti-federalist papers). The ratification debates held in the various State ratifying conventions are also very informative.

But, another source is the early legislation itself, because members of Congress in that era largely followed their constitutional obligations rather well.

One could argue the approach used by law schools everywhere — studying court cases (so-called *case "law")* — is a far inferior method (assuming an unbiased intent to learn the facts) because far too many cases too often show a partisan intent to alter the understanding and meaning of the Constitution (to support a "pliable" Constitution).

Perhaps in few other cases is this assertion as easily supported as an examination into the monetary Acts of Congress and the study of a few related court cases.

This newsletter issue starts off a multi-issue examination into the peculiar substitution of our circulating gold and silver coin with paper currency. This issue will examine the Coinage Act of April 2, 1792, to understand the enumerated power of Congress "To coin Money," and learn about the gold and silver coin authorized to be struck for our circulating tender for payment of debts.

The oddest feature of America's first Coinage Act involves the purity standard set for silver coins — 1,485 parts silver to 179 parts copper, for 1,664 parts total — as detailed in Section 13, which reads:

> "That the standard for all silver coins of the United States, shall be one thousand four hundred and eighty-five parts fine to one hundred and seventy-nine parts alloy; and accordingly that one thousand four hundred and eighty-five parts in one thousand six hundred and sixty-four parts of the entire weight of each of the said coins shall consist of pure silver, and the remaining one hundred and seventy-nine parts of alloy; which alloy shall be wholly of copper."[1, 2]

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1. April 2, 1792 Coinage Act, Section 13. (Volume I, *Statutes at Large,* Page 246 @ 249 [abbreviated: I *Stat.* 246 @ 249]).

See also: The public domain compilation of America's monetary laws; *Monetary Laws of the United States*, Matt Erickson, Volume II, Appendix D, Page 102, 2012. (freely available electronically online at www.PatriotCorps.org).

2. Copper was added as an alloy to "toughen" the coin, so the mixed-metal coin would circulate longer, without losing [relatively soft] silver content due to abrasion.

The copper alloy of the silver coins adds no monetary value to the silver coin.

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The initial silver standard set by the 1792 Act stands out further from the ordinary, when one considers that the purity standard set therein for gold coins, specified in Section 12, was a simple 11/12^{ths}-fine (11 parts pure gold-to-1 part alloy).[3]

The ultra-precise initial purity standard for silver coins — 1,485/1,664^{ths}-fine — stands as a formal testament to the exacting nature prescribed by Congress, in implementing members' constitutionally-enumerated power "To coin Money" and regulate its value.

Section 11 of the 1792 Act provides the first clue regarding the origin of the numerator — 1,485 — as it declared:

> "That the proportional value of gold to silver in all coins which shall by law be current as money within the United States shall be fifteen to one, according to quantity of weight, of pure gold or pure silver; that is to say, every fifteen pounds weight of pure silver shall be of equal value in all payments, with one pound weight of pure gold, and so in proportion as to any greater or lesser quantities of the respective metals."[5]

There are three primary commands in Section 11 that required the proportional value between gold and silver, to be 15-to-1. Every part gold was equal at law monetarily to 15 parts silver. Or, another way to say the same thing — equal-sized parts gave gold a 15-times greater dollar value than silver.

One command requiring a 15:1 proportional value between gold and silver is found at a "pound" level, with "every fifteen pounds weight of pure silver" being "of equal value in all payments" with "one pound weight of pure gold."

These words clearly show that monetary value is determined solely according to weight, of pure gold and pure silver (even in pound increments).

The same sentence goes on to detail that this 15:1 proportion is also to occur at "any greater or lesser quantities of the respective metals" (than the pound level).

The final command for a 15-to-1 proportion in Section 11 reiterates this ratio, at lesser quantities (than the pound weight), but in this case, specifically in struck coins. Section 11 specifies that "the proportional value of gold to silver in all coins which shall by law be current as money" must also be "fifteen to one."

A few hundred grains of weight in a coin is obviously a lesser quantity of weight of precious metals, than at the pound weight, of 5,760 grains to the troy pound.[6]

Section 9 of the 1792 Act provides additional evidence of the 15:1 ratio required by Section 11, and more-fully expounds upon the purity standards of Section 13.

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3. 11/12^{ths}-purity may also be described as 11/12^{ths}-*fine*.[4]

Gold is also often described in "carats" (though seldom monetarily) which examines the purity of gold in 1/24th-parts. 11/12^{ths} is mathematically equivalent to 22/24^{ths}, which is 22-carat gold.

The alloy in the gold coins was silver and copper (silver, to 50% of the alloy, with the remainder of copper).

Note that the silver/copper alloy of the gold coins does not add any monetary value to the gold coins.

4. "Fine" or "Fineness" refers to the purity standard of precious metal. 11/12^{ths}-fine, for example, means 11 parts pure metal (such as gold, in the case of the 1792 gold standard) and 1 part alloy. 11/12^{ths}-fine in decimal format equals .9166, which may also be written 916.66 (or 917, rounded), out of 1,000 parts.

5. April 2, 1792 Coinage Act, Section 11. (I Stat. 246 @ 248-249).

6. For readers unaccustomed to the troy weight system used to weigh precious metals, a "grain" is the smallest unit of weight.

There are 24 grains in a "pennyweight;" 20 pennyweights in a troy "ounce;" and 12 troy ounces in the troy "pound."

There are therefore 480 grains in a troy ounce and 5,760 grains in the troy pound.

Please note that there are 7,000 (of the same) "grains" in the avoirdupois pound used in standard American commerce, which avoirdupois pound is divisible by 16 ounces (so the avoidupois pound is just over 20% heavier than the troy pound).

A "grain" was originally equivalent to the average weight of a plump kernel of barley.

The "eagle" was the gold coin specified in Section 9 to contain 247.5 grains of pure gold, weighing, with alloy, a total of 270 grains. These coins with 247.5 grains of pure gold were named an "eagle," but then held monetarily "to be of the value of ten dollars or units."

With 240 grains in one-half of a troy ounce, there was just over one-half of a troy ounce of pure gold in the original 1792 ten-dollar gold eagle.

Since 247.5 grains involves a measure of weight and the eagle is a coin then-made current as money, all three mandates in Section 11 were triggered, requiring a 15:1 proportion between silver and gold.

Section 11 requires — at any given weight or value level — a proportional 15 times greater weight for pure silver as compared with pure gold (but realize circulating coins were always struck in standard gold and standard silver [i.e., gold or silver mixed with an alloy], for better protection against abrasion during circulation).

Since the 1792 Act specified that the ten-dollar gold eagle was to contain 247.5 grains of pure gold, it is appropriate to multiply this number — 247.5 — by 15, to see how much pure silver weight there must be in ten dollars of silver.

According to the principle thrice established by Section 11 and given the amount of pure gold in a ten-dollar gold eagle, there must therefore be precisely 3,712.5 grains of pure silver weight in silver coins whose value equals exactly ten dollars.

Since the specified weight for every silver dollar was specified in Section 9 to be 371 and 4/16ths grains (371.25 grains) of pure silver, ten of these silver dollars do precisely contain 3,712.5 total grains of fine silver.[7]

Thus, one finds that the gold-to-silver ratio established by Section 11 of the 1792 Act, of 15:1, was strictly and literally followed at the individual coin level, as Section 9 confirms.[8]

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7. April 2, 1792 Coinage Act, Section 9. (I Stat. 246 @ 248).

Section 9 of the 1792 Act specified the silver dollar to contain "three hundred and seventy-one grains and four sixteenth parts of a grain of pure silver, or four hundred and sixteen grains of standard silver."

Recall that Section 13 of the 1792 Act specifically set the silver standard at 1,485 parts of pure silver and 179 parts of pure copper, for a total of 1,664 parts, and that Section 9 specified 371.25 grains of pure silver in a dollar coin weighing 416 grains overall.

Working with fractions and numbers to the right of decimals is more difficult than working in whole numbers.

To get rid of fractions, one multiplies by the number that brings about a whole number.

In this case, to rid the fraction "4/16^{ths}" (or numbers to the right of the decimal, in ".25"), one multiplies by *four*.

Multiplying 371 4/16^{ths} (371.25) by four, equals 1,485.

1,485, of course, was the precise number of parts of pure silver specified in the standard for all silver coins by the 1792 Act.

Since the numerator in the fraction of 371.25/416 was multiplied by four, so too must the denominator 416 be multiplied by four, to keep the value of the fraction equivalent.

416 times four equals 1,664.

1,664 total parts minus 1,485 parts silver equals 179. Recall that Section 13 of the 1792 Act explicitly specified 179 parts copper alloy for the silver dollar.[9]

Therefore, the 1,485 parts in the purity standard for silver coins in 1792 comes not only explicitly from Section 13 of the 1792 act, but also mathematically from the clear principle thrice-mandated for strict proportionality between gold and silver coins in Section 11, and also given the pure metal weight of the coins as specified in Section 9, after getting rid of fractions/decimals.

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8. Since Section 9 of the 1792 Act made the half-eagle ($5) and quarter-eagle ($2.50) coins proportional in weight of gold to the ten-dollar eagle and the same section made the half-dollar, quarter-dollar, dime (then spelled 'disme'), and half-disme (the U.S. had silver half-dimes then) proportional in weight with the silver dollar, then all gold and silver coins remained in strict proportions, of 15 parts silver by weight for every part gold, at any given dollar (and cent) value or level.

One sees in the Coinage Act of 1792, that valuations between all monetary coins were all mathematically consistent and objective (after first and separately determining the actual market ratio, between gold and silver, which was then current in the marketplace).

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9. More than likely, neither number 179 and 1,664 were themselves targeted numbers, but both were simply derived as the product of the overall desired weight of the American dollar coin (~416 grains), given the weight of pure silver (371.25 grains) and then eliminating fractions to work in whole numbers.

The overall weight of the Spanish milled dollar certainly would be among the primary considerations Congress would look at when deciding to strike their own coin at the same value.

It is thus quite likely that after Congress determined 371.25 grains of fine silver for the dollar (it being precisely 15 times the weight of a dollar's equivalent of fine gold [24.75 grains]), that the next consideration would be the overall standard weight for their coin; they likely considered 416 grains as the best-suited for their overall needs.

412.5 grains (which equates with 90% silver when the pure-silver weight remains at 371.25 grains [which numbers and ratio would ultimately be designated in 1837]) was likely at that time simply too far below the total weight of that Spanish coin which would long remain in circulation as legal tender beside, and compete domestically with, the American dollar.[10]

The early government report writers reporting on the establishment of a mint wrote about the wide differences in weight and especially purity of the Spanish milled dollar. Secretary of the Treasury Alexander Hamilton wrote that "the results of various assays…being as various as the (number of) assays themselves."[11]

418 grains for the standard weight for the American dollar would not only have added two more grains of copper at additional weight and cost (but without additional value), but the resultant fineness of only .888 would have likely been considered as being too base for American coinage.

417 grains had the same issues, to a less extent, while 415 grains would have again been likely getting too far below the average weight of the Spanish dollar. 416 grains in the standard weight was likely a present compromise between past and future.

With 371.25 grains locked-in as the given weight of pure silver, the purity therefore became 371.25/416^{ths}.

Eliminating fractions/decimals would then make 1,485 parts of pure silver in 1,664 parts total.

Even after the Assayer's repeated complaints, of his difficulty conforming to the exacting purity standard for silver coins, Congress in 1794 refused to change it.

Members' strict adherence to honest and objective monetary principles meant they fully intended to honor their constitutional duty to strike honest coin under strict monetary standards, despite real-world and understandable concerns of competent mint staff.

It is important to realize that members of Congress determined monetary value by precise and proportional weight of pure gold and pure silver, within members' constitutionally-delegated power to coin money and regulate its value.

The 1792 silver standard had everything to do with keeping, literally, fifteen times as much silver as there was gold, at each and every dollar value level, and in each and every coin.

Knowing the purity standard of gold and silver coins allowed anyone with a scale to weigh their coins in standard silver or standard gold, and multiply that weight by the established purity standard, to individually determine actual legal value, which was established strictly according to precise weight of pure gold and pure silver.

It should be mentioned that copper cents and half-cents were also struck under the 1792 Act, but were not declared a tender, due to copper's impure nature, difficult at that time to precisely ascertain (as was necessary of a true monetary "standard").

Standard Unit of Value

Article I, Section 8, Clause 5 of the Constitution reads:

> "Congress shall have power…To coin Money, regulate the Value thereof, and of foreign Coin, and fix the Standard of Weights and Measures."

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10. The Spanish milled dollar remained legal tender in the United States until 1857 (11 Stat. 163, February 21, 1857).

11. Alexander Hamilton's January 28, 1791 Report #24 to the House of Representatives on the Establishment of a Mint.

See: *Monetary Laws*, Volume II, Appendix C, Page 81, 2012. www.PatriotCorps.org.

This clause makes the monetary unit chosen within the discretion of Congress — the dollar — the Standard Unit of Value, the standard by which all things of value were to be measured.

It was no coincidence that the clause of the U.S. Constitution which empowers Congress to strike coined money also grants to Congress the express power to "fix the Standard of Weights and Measures."

Just as the "inch" and "foot" were ultimately fixed as standards for our measures of length or distance; just as the "ounce" and "pound" were made standards for our measures of weight or mass; just as the "pint" and "gallon" were made standards for our measures of liquid capacity; and just as the "second" and "minute" where established standards for our measure of time, the "dollar" divisible by tenths, hundredths and thousandths (milles) was made our Money of Account, our standard unit for the measurement of Value.

Just as distance, mass, capacity and time are not left up to measureless and meaningless phrases, *neither is our money, in and for these United States of America.*

Can one imagine the economic havoc if, for example, an avoirdupois pound of butter didn't always equate with 16 ounces, if one mile didn't always measure 5,280 feet, or if one gallon of gas didn't always equate with 128 fluid ounces? Imagine the injustice incurred by employees paid by the hour, but a particular employer could designate 90 minutes as his "hour."

Short measures always cause injustice — whether the shortage is due to ignorance, incompetence or fraud.

Thus, it comes as no surprise that the American economy has suffered horrible instability, ever since our measure was intentionally severed from its objective constitutional rudder, of 371.25 grains of fine silver (and proportional measures of gold).

Once the dollar used in commerce effectively became known as a slip of paper without objective meaning, value was left to flutter in the wind. A "standard" without tie to objective measure is no standard at all, by any measure of the word.[12]

12. A later newsletter will examine the devious declaring of a slip of paper a legal tender, showing that it necessarily relies on clever subterfuge for its effective implementation.

The only reason to undermine the objectivity in our country's legal standards is to give particular parties an unearned advantage, at the expense of everyone else. Legalizing theft is not and cannot be a legitimate constitutional objective and thus one may know that the nation's implementation of legal tender paper currency in 1862 necessarily rests upon a false (and unstable) foundation (and one that may be exposed to the purifying light of day by careful investigation).

Legal Tender Value — Weight & Purity

Strictly speaking, Congress in 1792 established the United States on a silver coin standard, along with a gold coin equivalency, effectively placing us on a bi-metallic coinage standard (gold certificates weren't issued until 1863, and silver certificates, in 1878).[13]

Although the 1792 Congress established the "dollar" as a coin with 371.25 grains of pure silver weighing 416 grains including its copper content, the coins struck at the mint at the dollar denomination still were not necessarily legally valued at that rate of one dollar.

Neither were gold coins necessarily valued at their legal rate, such as the "eagle" otherwise valued at ten dollars.

The actual lawful tender value of any given coin under the 1792 Act was determined solely based upon its actual weight of properly-fine gold and silver.

Section 16 of the 1792 Act read as follows:

> "That all the gold and silver coins which shall have been struck at, and issued from the said mint, shall be a lawful tender in all payments whatsoever, those of full weight according to the respective values herein before declared, and those of less than full weight at values proportional to their respective weights."[14]

One must realize that coinage methods of the time were rather crude, such as the Assayer's problem reaching the required purity standard imposed for silver, and also quite labor-intensive.

13. Gold certificates were first authorized by the Act of March 3, 1863, Section 5 (12 Stat. 709 @ 711). Silver certificates were first authorized by the Act of February 28, 1878, Section 3 (20 Stat. 25, @ 26).

14. April 2, 1792 Coinage Act, Section 16. (I Stat. 246 @ 250).

Each coin struck was mostly a work of art and its precise weight fluctuated slightly. Although coin blanks could be filed prior to striking if they were too heavy, their weights were less uniform, as compared with decades later, when technological advance made striking coins more of a science and less of an art.

While the 1792 Congress went to great lengths to ensure the precise purity of "every separate mass of standard gold or silver, which shall be made into coins at the said mint," members cared less about the uniformity of weight of any particular coin, figuring each owner of coin would weigh it or them, individually or in bulk, to determine value accurately.[15]

Since purity was very difficult to field-measure, Congress went to great pains to ensure it.

But since weight and therefore value, could be determined by individuals, businesses, and government officers by use of accurate balances and precise counter-weights, Congress was less strict in this regard.

The first U.S. silver and gold coins were not minted with any face value struck on them, because their declared face value didn't necessarily represent the coin's actual lawful tender value.

The original intent for U.S. coins was that they would pass at their actual weight in their standard fineness, rather than by "tale" (by their piece count, at their declared value).

Coins of full weight would pass at their stated value, but worn, clipped or improperly-struck coins would legally pass only at their measured weight and calculated value.

A dollar coin 99% of its proper weight would be valued only at 99 cents, rather than one dollar.

It was not until mint practices sufficiently advanced that all American coins finally had tolerances also prescribed for weight in 1837.[16]

15. *Ibid*, Section 18. (I Stat. 246 @ 250).

16. January 18, 1837 Coinage Act, Section 25. (5 Stat. 136 @ 140).

Gold coins were first prescribed weight tolerances in 1834.[17]

17. June 28, 1834 Coinage Act, Section 4. (4 Stat. 699 @ 700).

After 1837, light-weight coins would be pulled from circulation by the treasury and re-struck into full-weight coins by the mint, meaning all coins in circulation were soon of full and accurate weight.

While Americans today typically think of coins only at their given face value, by tale or count, the most demanding of early Americans looked to the measured weight of monetary metals to determine the actual legal value for their coins.

Substance and principles mattered, not the name of the unit, or its declared face value.

Under the 1792 standards, it was impossible to hold as a lawful tender anything without gold and silver, for money was valued only "according to quantity of weight, of pure gold and pure silver."[18]

But, just because the wording of future laws later changed, doesn't mean that fundamental constitutional principles for our money changed, under our unchanged Constitution.

Unfortunately, our money simply wasn't later as clearly protected as earlier, from our own monetary ignorance, even as it was yet under the same constitutional authority.

Tragically, the original safety net which at one time existed to ensure the lawful tender value of all money would be determined solely by weight and fineness of actual gold and silver (predominantly in coin form) was removed from the marketplace in 1837, as gold and silver coins were made a tender at their face or nominal value, even as the weight and purity of our legal tender money at that time came under stricter tolerances than ever before.[19]

The very perfection of the coins by 1837, and the appropriate government guarantee of that perfection, helped loosen the written protections that could later break free money from its inherent value (because of widespread monetary misunderstanding, not from changes in allowable federal power).

18. April 2, 1792 Coinage Act, Section 11. (I Stat. 246 @ 249).

While copper cents and half-cents were also struck, they were not declared a tender (for the impurity of copper at that time meant that it was difficult to precisely ascertain value).

That lawful tender money is valued only according to the weight (and purity) of gold and silver coin is acknowledged in Jefferson's 1791 notes on the establishment of a money mint (when he was Secretary of State), where he writes:

> "no money should be received, or paid at their treasuries, or by any of their officers, or any bank, but on actual weight."[21]

Section 19 of the 1792 Coinage Act prescribed the death penalty, to any mint officer who intentionally debased the purity or weight of the struck coins, for profit or gain, saying:

> "That if any of the gold or silver coins which shall be struck or coined at the said mint shall be debased or made worse as to the proportion of fine gold or fine silver therein contained, or shall be of less weight or value than the same ought to be pursuant to the directions of this act, through the default or with the connivance of any of the officers or persons who shall be employed at the said mint, for the purpose of profit or gain, or otherwise with a fraudulent intent, and if any of the said officers or persons shall embezzle any of the metals which shall at any time be committed to their charge for the purpose of being coined, or any of the coins which shall be struck or coined at the said mint, every such officer or person who shall commit any or either of the said offences, shall be deemed guilty of felony, and shall suffer death."[22]

The Second Congress was deadly serious, regarding the implementation of their solemn constitutional duty to strike honest coins, of measurable and defined weight, at their precise purity standards.

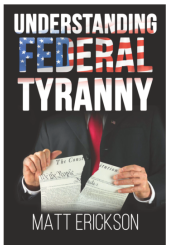
While the next few issues of this newsletter will examine monetary matters more fully, also see any of the following public domain books, freely available electronically at the www.PatriotCorps.org website, and a number of public sites, including:

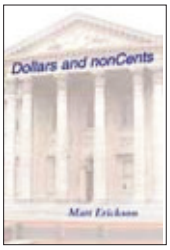
www.Archive.org (search by book title);

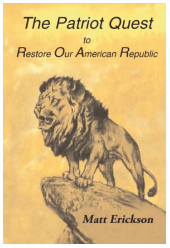
www.Scribd.com/matt_erickson_6;

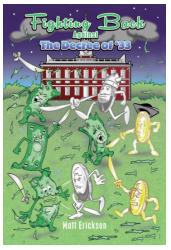
www.Academia.edu (non-fiction only);

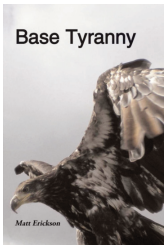
www.Issuu.com/patriotcorps











19. January 18, 1837 Coinage Act, Sections 8 - 11. (5 Stat. 136 @ 137 & 138).

An 1873 Act restored this sound principle for gold coins below their legal weight, which low-weight coins were again properly made "a legal tender at valuation in proportion to their actual weight."[20]

20. February 12, 1873 Coinage Act, Section 14 (17 Stat. 424 @ 426).

21. *Monetary Laws of the United State*s, Volume II, Appendix C, Page 77, 2012. www.PatriotCorps.org.

22. April 2, 1792 Coinage Act, Section 19. (I Stat. 246 @ 250).

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